DMT 1210

Division: Career and Technical Education
Department: Automotive Technology
Course: DMT 1210
Title: Fuel - Governor Systems and Lab
Catalog Description:

This course provides theory and lab experience for advanced diesel technology students on diesel fuel systems used on mobile equipment. Instruction covers tune up procedures, fuels, proper engine oils, overview of mechanical governors, testing and adjusting, dynamometer operations, maintenance procedures, and emissions controls.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 4; Lecture: 2; Lab: 5
Clock/Hour Requirements: 113
Offered for Non-Credit: No
Prerequisites: DMT 1110

Corequisites: None

Justification:

This is the first of three courses designed to teach students fuel injection systems and their controls. The information contained in this course enables students to repair, service, and troubleshoot current fuel injection systems. Students will troubleshoot and test injection systems to meet government regulations. This curriculum was developed using the nationally recognized Automotive Service Excellence (ASE) task lists, manufacturer training materials, advisory committee input, Utah Valley State College syllabi, and Salt Lake Community College documentation.

Student Learning Outcomes:

Upon successful completion, students should be able to:

- use engine tune up procedures
- use dynamometer
- troubleshoot and repair charging and starting system components
- test and repair electrical circuits
- explain theory and operation of mechanical and electrical engine control systems
- troubleshoot intake/exhaust systems.

Content:

Course objectives will be accomplished by providing students with learning experiences in the following subject areas:

- tune up, troubleshooting, testing, and Dynamometer operation
- engine fuels, oils, nozzles, and injector types
- mechanical governors overview
- electronics and circuits overview
- electrical review, voltage drops, alternator, and starter testing.

General Education Outcomes:

2) Write clearly, informatively, and persuasively.

Students will complete written service reports on each laboratory project. These reports must be written in a clear, concise, and effective manner as this is the means by which customers make repair decisions. These reports are reviewed and returned to students with suggestion for improvement.

4) Retrieve, evaluate, interpret, and deliver information through a variety of traditional and electronic media.

Students will utilize electronic and written reference manuals and computer diagnostics to identify, troubleshoot, and repair fuel and governor systems.

Key Performance Indicators:

In class:

- Student scores will be based on: written assignments (20%-30%), lab exercises (40%-50%), and quizzes and tests (20%-30%).

Following class:

- Upon completion of the course, competency will be demonstrated in subsequent courses and on customer projects. Students will also use on the job reports and repair orders to verify skills acquired.

Representative Text and/or Supplies:

- Thiessen, Dales, *Diesel Fundamentals,* current edition, Prentice Hall.

Optimum Class Size: 10
Maximum Class Size: 20

Signatures:

I hereby submit this course syllabus:

Dale Jensen, ,

I hereby find this course consistent with the goals and resources of the Automotive Technology Department:

Brent Reese, BS, Associate Professor, Chair

I hereby find this course consistent with the goals and resources of the Career and Technical Education Division:

Michael P. Medley, MBA, Assistant Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)